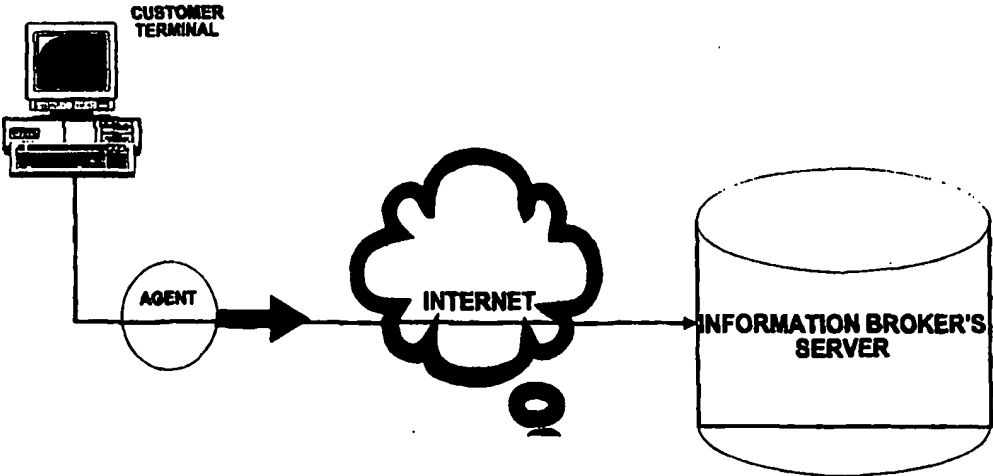


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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/SE98/01242 <b>(22) International Filing Date:</b> 25 June 1998 (25.06.98)  <b>(30) Priority Data:</b> 9702552-2                      2 July 1997 (02.07.97)                      SE  <b>(71) Applicant:</b> TELIA AB [SE/SE]; Mårbackagatan 11, S-123 86 Farsta (SE).  <b>(72) Inventor:</b> ISAKSSON, Lennart; Andersvägen 5, S-954 35 Gammelstad (SE).  <b>(74) Agent:</b> PRAGSTEN, Rolf; Telia Research AB, Corporate Patent Dept., Vitsandsgatan 9, S-123 86 Farsta (SE).		<b>(81) Designated States:</b> EE, LT, LV, NO, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>
<b>(54) Title:</b> IMPROVEMENTS IN, OR RELATING TO, THE DISTRIBUTION OF INFORMATION   <pre>graph LR;     CT[CUSTOMER TERMINAL] --- AG((AGENT));     AG --&gt; I((INTERNET));     I --&gt; IS[INFORMATION BROKER'S SERVER];</pre> <b>(57) Abstract</b> <p>The present invention is based on a mechanism which enables information providers to direct their offerings to individual information users during those periods when an information user has a high probability of requiring the information on offer. The system of the present invention comprises three entities, an information user terminal, of which there may be a plurality, information providers, of which there may also be a plurality, and an information broker's file server. These entities are linked via the Internet. Thus, the present invention is based on a system having the following functional elements: an agent-based information gathering, packaging, and presentation sub-system; a database for storage of statistical and dynamic information on customers; distribution of advertising from companies to individual customers; distribution of targeted advertising/promotional materials to individual customers; and filtration of unwanted information on an individual customer basis.</p>		

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- 1 -

Improvements in, or Relating to, the Distribution of Information

The present invention relates to a system for, and a method of, distributing and collecting information and, in particular, a system for distributing information over the Internet and gathering information from the World Wide Web, together with an information user's terminal adapted for use with the system and an information broker's file server adapted for use with the system.

The present invention is of general applicability to gathering and distributing information over the Internet. The invention will, however, be described in the particular context of the distribution of advertising material and collection of product and/or service related data. It will be quite apparent, to those familiar with the Internet, how the present invention can be adapted for use in any information distribution, or gathering, operation, regardless of the content of the information involved.

Any substantial company which is in the business of selling products, or services, needs to market themselves via advertisements in a variety of media, e.g. TV, radio, and newspapers, etc.. The cost effectiveness of such advertising is, however, often poor where the media used for advertising covers too many customer groups. This is especially true for products and services oriented to niche markets. For example, it is only families with very small children that are a real target for nappy advertisements. However, nappy manufacturers who advertise on TV must pay for all those people who watch their advertisement and do not have children using nappies, despite the fact that such individuals are likely to be irritated by the advertisement and will certainly not be influenced by the advertisement to purchase the product.

Another problem is that people, who are interested in a specific product/service area, are only seriously in the market for products and services, within their area of interest, for short intervals of time, when they are actually contemplating a purchase. It is, therefore, not sufficient to direct marketing and advertising at niche groups of customers. Ideally mechanisms are required to

- 2 -

capture the actual behaviour of customers, so that the time windows when a potential customer is about to purchase a new product can be identified.

5 The present invention is based on a mechanism which enables companies engaged in the marketing of products and services to direct their marketing activities and personal discount offers at individual customers, during those periods when the individual customer has a high probability of actually purchasing products, or services, of the type which a particular company is offering for sale. A service based on the present invention represents a unique opportunity for companies who are actively marketing products and services. Such a service  
10 offers very substantial added value to their advertising programs.

Although the size of a given niche market is limited, there exist a very large number of such niche markets. This means that the demand for services, of the type offered by the present invention, is extremely large. Furthermore, current trends are moving away from mass production of standard products towards  
15 specialised and often customised products which are, necessarily, niche market products.

A central problem, which must be handled with sensitivity in individual-matched marketing, is that of a customer's right to be protected from unsolicited advertising material which he does not want, i.e. his privacy rights. Internet  
20 services which parasitise the customer's privacy rights without giving a customer any added value will be blocked out by the customer employing various software mechanisms. The present invention addresses this issue by providing the customer with a valuable information gathering packaging, and information presentation service. In particular, the operator of an information brokering  
25 service, based on the present invention, may, on request, provide assistance to customers in the selection of that information which is of particular value to the customer. In addition, the information broker may block off from a customer all information which is known to be of no interest to the customer. In this way, an information broker's customer knows that he will get help in exercising control over  
30 the vast and growing mass of confusing information that is available on the World Wide Web and might otherwise overwhelm him if not controlled.

- 3 -

The present invention is based on a system having the following functional elements:

- an agent-based information gathering, packaging, and presentation sub-system;
- 5       - a database for storage of statistical and dynamic information on customers;
- distribution of advertising from companies to individual customers;
- distribution of targeted advertising/promotional materials to individual customers; and
- 10       - filtration of unwanted information on an individual customer basis.

In terms of information identification, selection and collection, modern search engines, such as Alta Vista, Lycos, or Web Crawler, can only present a guide reference to the WWW-sites which an information user's, or customer's, search specification have identified. The customer must himself, thereafter,  
15       sequentially find the WWW-sites identified by the search engine to obtain the information he requires.

Information brokerage services, of the type facilitated by the present invention, do not exist at the present time. Companies (vendors) actively engaged in marketing their products and services over the Internet can only target their  
20       advertising by using customer addresses supplied by direct marketing companies. Such address lists are based on statistical information, about a customer, available to direct marketing companies. Such information is usually based on no more than the industrial sector in which a customer is active, registers of trades and professions, etc..

25       Agent-based filtration mechanisms which protect a user from unwanted information via e-mail, prioritise e-mail, etc., are known. However, systems which

- 4 -

direct information from information providers to information users on the basis of an information user's current interests, as is done by the present invention, are not known at the present time.

5       The Cookie mechanism, which enables a company engaged in the marketing of products and/or services to gather information on a customer's actions on the company's own WWW-site, is frequently blocked out by customers, because, the application is implemented entirely on the selling company's premises. The Cookie mechanism is, therefore, an inefficient and inaccurate way of collecting customer preference information.

10       According to a first aspect of the present invention, there is provided a system for collecting information from, and distributing information over, the Internet, said system including a plurality of information user's terminals connectable, via the Internet, to an information broker's file server, characterised  
15       in that said information user's terminal is adapted to transmit an agent to said information broker's file server, and in that said information broker's file server includes an information filter adapted to be controlled by said agent, and in that said information broker's file server includes a customer database containing data on information users including information users' current information interests.

20       Said customers database may include statistical and dynamic information, on information users, derived from:

- data supplied by information users to said information broker;
- transactions in which information users have been involved; and
- information derived from information users' agents.

25       Said customer database may include, for general information users, some, or all, of the following data:

- name, postal address, telephone number and e-mail address;

- 5 -

- demographic data such as age, sex, family details, occupation;
- leisure activities; and
- areas of special interest.

Said customer database may include, for professional information users, some, or all, of the following data:

- name, company postal address, telephone number and e-mail address;
- company's business activities and size;
- occupation; and
- areas of special interest.

Said information broker's file server may include update means adapted to permit information pertaining to an information user, held on said customer database, to be selectively altered by said information user..

Said agent may be adapted to contain a specification for information which an information user desires to obtain and, once an information user's terminal has transmitted said agent to said information broker's file server over the Internet, said agent may be adapted to collect information meeting said specification from:

- said information broker's file server; and
- from the World Wide Web, in cooperation with said information broker's file server.

Said agent may be adapted to gather a list of World Wide Web addresses which may contain information meeting said specification and, in parallel, to

- 6 -

access data from said list of World Wide Web addresses.

Information, derived from searches, may be stored in said information broker's file server and, where an information user has requested, by means of an agent, that information be routed to him which meets his search specification  
5 said derived information may be assigned a dynamic weighting depending on the time that said derived information has been held on said file server, said weighting being such that the probability of older derived information being routed to said information user is less than the probability of newer derived information being routed to said information user.

10 Said information broker's file server may have report means for formulating a report on a search conducted in accordance to an information user's specification, said report including sections on information derived from different World Wide Web sites including addresses of World Wide Web sites to which each section relates.

15 Said information broker's file server may include notification means adapted to notify an information user when a report on a search carried out to his/her specification has been completed by transmitting a notification message over a communications means.

Said communications means may be a GSM short message service.

Said communications means may be e-mail.

Said communications means may be Minicall.

Said report may be transmitted to an information user, who commissioned said report, via pointcast.

25 Said report may be transmitted to an information user, who commissioned said report, via e-mail.



- 7 -

Said information broker's file server may be adapted to receive information from a plurality of information providers intended for routing to information users meeting a user specification provided by an information provider and, said information broker's file server may include an information comparator adapted to compare information received from an information provider with profiles of information users derived from said customer database and to route information derived from information providers only to those information users having an interest therein.

Information selected for transmission to an information user may be passed to an information filter, controlled by an agent originating from an information user, prior to routing said selected information to said information user, said information filter being adapted to remove any information of a type which an information user has indicated is of no interest.

Said information users may be consumers, or potential purchasers, said information providers may be vendors of products and/or services, and said information supplied by said information providers may be advertising and/or promotional material.

Said customer data base may contain information on information users derived from transactions relating to individual information users.

Said advertising and/or promotional material may include multi-media presentations of a product, or service, and/or guides to a vendor's World Wide Web site.

According to a second aspect to the present invention, there is provided, in a system, as set forth in any preceding paragraph, a method of gathering information from the World Wide Web, characterised by:

- an information user transmitting an agent to an information broker's file server, said agent containing a search specification for information desired by said information user:

- 8 -

- comparing information held by said information broker's file server with said search specification and an information user's profile derived from a customer database held by said information broker's file server; and
- 5        - filtering said information, derived from the step of comparing, under said agent's control.

Said customer database may contain data on information users' current information interests.

10        Said customer database may include statistical and dynamic information, on information users, derived from:

- data supplied by information users to said information broker;
- transactions in which information users have been involved; and
- information derived from information users' agents.

15        Said customer database may include, for general information users, some, or all, of the following data:

- name, postal address, telephone number and e-mail address;
- demographic data such as age, sex, family details, occupation;
- leisure activities; and
- areas of special interest.

20        Said customer database may include, for professional information users,

- 9 -

some, or all, of the following data:

- name, company postal address, telephone number and e-mail address;
- company's business activities and size;
- occupation; and
- areas of special interest.

An information user may be permitted to alter information, pertaining, to said information user held on said customer database.

10 Said information user's terminal may be disconnected from said information broker's file server once said agent has been transmitted from said information user's terminal to said information broker's file server, and said agent may collect information meeting said search specification from:

- said information broker's file server; and
- the World Wide Web, in cooperation with said information broker's file server.

15 Said agent may gather a list of World Wide Web addresses which may contain information meeting said search specification and, in parallel, may access data from said list of World Wide Web addresses.

20 Information, derived from searches, may be stored in said information broker's file server and, where an information user has requested, by means of an agent, that information be routed to him which meets his search specification a dynamic weighting, depending on the time that said derived information has been held on said file server, may be assigned to said derived information, said weighting being such that the probability of older derived information being routed

- 10 -

to said information user is less than the probability of newer derived information being routed to said information user..

5 Said information broker's file server may formulate a report on a search conducted in accordance with an information user's search specification, said report including sections on information derived from different World Wide Web sites including addresses of World Wide Web sites to which each section relates.

Said information broker's file server may transmit a notification message over a communications means notifying an information user when a report on a search carried out to his/her specification has been completed.

10 Said information broker's file server may transmit a notification message over a GSM short message service notifying an information user when a report on a search carried out to his/her specification has been completed.

15 Said information broker's file server may transmit a notification message over e-mail notifying an information user when a report on a search carried out to his/her specification has been completed.

Said information broker's file server may transmit a notification message over Minicall notifying an information user when a report on a search carried out to his/her specification has been completed.

20 Said report may be transmitted to an information user, who commissioned said report, via pointcast.

Said report may be transmit to an information user, who commissioned said report, via e-mail.

25 According to a third aspect of the present invention, there is provided in a system as set forth in any previous paragraph, a method of distributing information over the Internet, characterised by:

- 11 -

- an information broker's file server receiving information from a plurality of information providers intended for routing to information users;
- comparing information received from an information provider with profiles of information users derived from a customer database;
- routing information derived from information providers only to those information users whose profiles match said information.

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Information selected for transmission to an information user may be passed to an information filter, controlled by an agent originating from said information user, prior to routing said selected information to said information user, said information filter being adapted to remove any information of a type which an information user has indicated is of no interest.

15

Said information users may be consumers, or potential purchasers, said information providers may be vendors of products and/or services, and said information supplied by said information providers may be advertising and/or promotional material.

20

Said customer database may contain information on information users derived from transactions relating to individual information users.

Said advertising and/or promotional material may include multi-media presentations of a product, or service, and/or guides to a vendor's World Wide Web site.

25

According to a fourth aspect of the present invention, there is provided an information user's terminal characterised in that said information user's terminal is adapted to operate with a system as set forth above, or use a method as set forth above.

According to a fifth aspect of the present invention, there is provided an

- 12 -

information broker's file server characterised in that said information broker's file server is adapted to operate with a system as set forth above, or use a method as set forth above.

Embodiments of the invention will now be described, by way of example,  
5 with reference to the accompanying drawings, in which:

Figures 1 to 3 illustrate the operation of an agent based information collection mechanism according to the present invention.

Figure 4 illustrates, in schematic form, the relationship between information user, information broker and information provider, established in the  
10 present invention.

Figure 5 illustrates, in schematic form, the mechanism employed within an information broker's file server, according to the present invention.

The present invention is an information distribution and collection system particularly adapted for use with the Internet and World Wide Web. The present  
15 invention can be used to facilitate the provision of an information brokerage service which can be used for the distribution of targeted advertising and the collection of product/service related data to be used for assisting consumers to make informed purchasing decisions.

A system, according to the present invention, employs the following  
20 functional components:

- an agent-based information gathering, packaging, and presentation element;
- a database and file server for storage of statistical and dynamic information relating to customers;

- 13 -

- means for the distribution of product and service related advertising, by companies, to individual customers;
- distribution of targeted advertising on an individual customer basis;  
and
- filtration of information which is not required by a given customer;

5

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The operation of an agent based information search, selection and presentation, mechanism, utilised in the present invention, will now be described with reference to Figures 1 to 3 of the accompanying drawings. A subscriber to an information brokerage service, the customer, operating on a system according to the present invention, is offered the opportunity, via a user-friendly interface on his/her Internet terminal (PC), to specify information on products, services, or other matters, which he wishes to see. The customer information specification is transmitted in the form of an agent, via the Internet, to an information broker's file server. The customer, once the agent has been transmitted, can disconnect himself from the Internet. The customer's agent, operating within, and from, the information broker's server, seeks out the information specified by the customer from within the resources of the information broker's system, or from the World Wide Web.

20

After the customer's agent has identified references to WWW-sites of interest, the agent starts to gather information. This process may be conducted in parallel with the identification of WWW-sites of interest. That is to say, the agent, in each instance, retrieves requested information from the information broker's own WWW-site according to received WWW-references/addresses.

25

The information gathered from WWW-sites is then arranged on the basis of a matching between the preferences specified by the customer and the object/service/information available. Information from WWW-sites which is not sufficiently substantiated on the basis of the customer's preferences is rejected. Other information is packaged together in the form of a report where the information from each WWW-site comprises a separate section, including the

- 14 -

WWW-address to the site from which the information was obtained.

5 If the customer is connected to the Internet, rather than directly linked to the information broker's file server, the information may be distributed to the customer's hard disc via pointcast, for example. Alternatively, if the customer so wishes the information may be transferred to him/her by e-mail.

If the customer so requests, the customer may be notified that the search has been completed in accordance with his instructions. Notification may be given via GSM/SMS, Minicall, or e-mail.

10 The successful operation of the present invention depends on the information broker having access to current information on a customer's preferences, interests and activities. When a customer connects to the information broker's file server, the customer may be requested to specify basic information about himself. For consumers, this may include:

- Name, address, and telephone number, e-mail address, etc.
- 15 - Demographic data, such as age, sex, family members, occupation, etc.
- Leisure pursuits
- Areas of interest

20 For professional users (register of trades and professions), the information might, alternatively, include:

- Name, company address, and telephone number, e-mail address, etc.
- Company's business, size, etc.



- 15 -

- Occupation
- Areas of interest

5       Users can also be given the opportunity to specify types of information which they do not wish to receive under any circumstances. For example, they may choose to exclude advertisements and discount offers relating to perfumes, cosmetics, etc.. A user may amend the list of materials he wishes to exclude, from time-to-time, by adding to his/her list of exclusions, or deleting items from his/her list of exclusions. The more statistical information stored on an information broker's database, which the customer can update whenever he/she wishes, the  
10       better will be the service provided to the information user (customer) and information providers (advertisers).

15       When a customer initiates an agent-based information gathering procedure, transient, or dynamic, information will be available on the information broker's file server. This dynamic information is weighted so that searches made on the day that an information request is received are given a high weighting, with the weighting gradually reducing until the information is removed after 10 working days, say.

20       The present invention can facilitate the provision of a service by an information broker which enables companies engaged in the sale of products and services to distribute advertisements and discount offers which are matched to the individuals to whom they are distributed.

25       The overall system arrangement for the provision of such a service is illustrated in Figure 4. An information broker's customers are equipped with customer terminals which may be PCs equipped with Internet access software. These terminals enable customers to access the information broker's file server, and vice versa. Advertisers, and other information providers, are linked to the information broker's file server via the Internet and can supply advertising and like material to the information broker for forwarding to customers who meet the advertiser's profile. The information broker can then distribute advertising material

- 16 -

to its individual customers on the basis of matching the advertisers profile to statistical information on its customer database i.e. the customer's information requirements profile.

5 The detailed operation of the information broker's file server is illustrated schematically in Figure 5. The advertiser's profile for incoming advertising material and promotional material is compared with the customers' information requirements profiles, which is derived from the information broker's customer information database, by a comparator subsystem. The result of the comparison process is a list of customers who appear to meet the advertiser's advertising target profile. Access to each of the information broker's customers is guarded by 10 an agent controlled filter. The agents originate from individual customers of the information broker. The agent controlled filters prevent individual customers receiving advertising relating to any topic, or field, which they have specifically excluded. This process protects customers' right of privacy and can override 15 advertisers' wish to access a particular customer. This mechanism actually operates in advertisers', as well as customers', interest because it minimises customer alienation.

Vendors specify the criteria to be used in targeting their advertising via the WWW, i.e. the customer segments at which their advertising campaign is targeted. For example, an advertising campaign may be targeted at purchasing managers for companies, in the home electronics trade, located in the North of Sweden, who have sought information on high-resolution plasma colour screens during the last four days. The advertiser instantaneously receives information on the number of persons who fulfil this criteria. This enables the profile for the advertising 25 campaign to be adjusted, if appropriate, to home in on an effective target group(s).

If vendors wish to use the information broker's advertisement distribution service, the required advertisement can be attached, such advertisements may include multimedia presentation of the product, active guides to the company's WWW site, etc.. Alternatively, the advertisement may be attached to an electronic 30 message sent to the information broker directly from the information broker's WWW-based advertisement distribution service.

- 17 -

On the basis of the customer's preferences, advertisements and discount offers are distributed to customers via, for example, pointcast, or e-mail. Before automatic distribution takes place, an automatic check is made to ensure that the advertisement relates to the customer's areas of interest and does not include materials which the customer has specified as excluded.

5

Vendors thus receive a direct contact with customers without the vendor having full control over which customers he will be able to contact. This ensures that vendors and advertisers do not terrorise customers with advertisements and discount offers long after the customer has ceased to have an active interest in a particular area.

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Advertisers and vendors can be charged by an information broker for use of his system on the basis of each advertisement and/or discount offer distributed with, or without, volume discounts.

As indicated above, the information broker automatically checks that advertisements and/or discount offers which vendors wish to distribute are actually consistent with the customer's current interest profile and do not contain information which the customer has banned.

15

**CLAIMS**

1. A system for collecting information from, and distributing information over, the Internet, said system including a plurality of information user's terminals connectable, via the Internet, to an information broker's file server, characterised in that said information user's terminal is adapted to transmit an agent to said information broker's file server, and in that said information broker's file server includes an information filter adapted to be controlled by said agent, and in that said information broker's file server includes a customer database containing data on information users including information users' current information interests.

2. A system as claimed in claim 1, characterised in that said customers database includes statistical and dynamic information, on information users, derived from:

- data supplied by information users to said information broker;
- transactions in which information users have been involved; and
- information derived from information users' agents.

3. A system, as claimed in claim 2, characterised in that said customer database includes, for general information users, some, or all, of the following data:

- name, postal address, telephone number and e-mail address;
- demographic data such as age, sex, family details, occupation;
- leisure activities; and
- areas of special interest.

- 19 -

4. A system, as claimed in either claim 2, or 3, characterised in that said customer database includes, for professional information users, some, or all, of the following data:

- name, company postal address, telephone number and e-mail address;
- company's business activities and size;
- occupation; and
- areas of special interest.

5. A system, as claimed in any of claims 2 to 4, characterised in that said information broker's file server includes update means adapted to permit information pertaining to an information user and held on said customer database to be selectively altered by said information user.

6. A system, as claimed in any previous claim, characterised in that said agent is adapted to contain a specification for information which an information user desires to obtain, and in that once an information user's terminal has transmitted said agent to said information broker's file server over the Internet, said agent is adapted to collect information meeting said specification from:

- said information broker's file server; and
- the World Wide Web, in cooperation with said information broker's file server.

7. A system, as claimed in claim 6, characterised in that said agent is adapted to gather a list of World Wide Web addresses which may contain information meeting said specification and, in parallel, to access data from said list of World Wide Web addresses.

- 20 -

8. A system, as claimed in claim 7, characterised in that information, derived from searches, is stored in said information broker's file server, and in that where an information user has requested, by means of an agent, that information be routed to him which meets his search specification said derived information is assigned a dynamic weighting, depending on the time that said derived information has been held on said file server, said weighting being such that the probability of older derived information being routed to said information user is less than the probability of newer derived information being routed to said information user..

9. A system, as claimed in any previous claim, characterised in that said information broker's file server has report means for formulating a report on a search conducted in accordance to an information user's specification, said report including sections on information derived from different World Wide Web sites including addresses of World Wide Web sites to which each section relates.

10. A system, as claimed in claim 9, characterised in that said information broker's file server includes notification means adapted to notify an information user when a report on a search carried out to his/her specification has been completed by transmitting a notification message over a communications means.

11. A system, as claimed in claim 10, characterised in that said communications means is a GSM short message service.

12. A system, as claimed in claim 10, characterised in that said communications means is e-mail.

13. A system, as claimed in claim 10, characterised in that said communications means is Minicall.

14. A system, as claimed in any of claims 10 to 13, characterised in that said report is transmitted to an information user, who commissioned said report, via pointcast.

15. A system, as claimed in any of claims 10 to 13, characterised in that said

- 21 -

report is transmitted to an information user, who commissioned said report, via e-mail.

16. A system, as claimed in any previous claim, characterised in that said information broker's file server is adapted to receive information from a plurality of information providers intended for routing to information users meeting a user specification provided by an information provider, and in that said information broker's file server includes an information comparator adapted to compare information received from an information provider with profiles of information users derived from said customer database and to route information derived from information providers only to those information users having an interest therein.

17. A system, as claimed in claim 16, characterised in that information selected for transmission to an information user is passed to a information filter, controlled by an agent originating from an information user, prior to routing selected information to said information user, said information filter being adapted to remove any information of a type which an information user has indicated is of no interest.

18. A system, as claimed in claim 17, characterised in that said information users are consumers, or potential purchasers, in that said information providers are vendors of products and/or services, and in that said information supplied by said information providers is advertising and/or promotional material.

19. A system, as claimed in either claim 17, or 18, characterised in that said customer data base contains information on information users derived from transactions relating to individual information users.

20. A system, as claimed in claim 18, or claim 20, characterised in that said advertising and/or promotional material may include multi-media presentations of a product, or service, and/or guides to a vendor's World Wide Web site.

21. In a system, as claimed in any of claims 1 to 19, a method of gathering information from the World Wide Web, characterised by:

- 22 -

- an information user transmitting an agent to an information broker's file server, said agent containing a search specification for information desired by said information user;
- comparing information held by said information broker's file server with said search specification and an information user's profile derived from a customer database held by said information broker's file server; and
- filtering said information, derived from the step of comparing information, under said agent's control.

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22. A method, as claimed in claim 21, characterised by said customer database containing data on information users' current information interests.

23. A method as claimed in claim 21, or 22, characterised by said customer database including statistical and dynamic information, on information users, derived from:

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- data supplied by information users to said information broker;
- transactions in which information users have been involved; and
- information derived from information users' agents.

24. A method, as claimed in claim 23, characterised by said customer database including, for general information users, some, or all, of the following data:

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- name, postal address, telephone number and e-mail address;
- demographic data such as age, sex, family details, occupation;
- leisure activities; and



- 23 -

- areas of special interest.

25. A method, as claimed in any of claims 22 to 24, characterised by said customer database including, for professional information users, some, or all, of the following data:

- 5                   - name, company postal address, telephone number and e-mail address;
- company's business activities and size;
- occupation; and
- areas of special interest.

10           26. A method, as claimed in any of claims 22 to 25, characterised by permitting an information user to alter information, pertaining to said information user, held on said customer database.

15           27. A method, as claimed in any of claims 21 to 26, characterised by disconnecting said information user's terminal from said information broker's file server once said agent has been transmitted from said information user's terminal to said information broker's file server, and by said agent collecting information meeting said search specification from:

- said information broker's file server; and
- 20               - the World Wide Web, in cooperation with said information broker's file server.

28. A method, as claimed in claim 27, characterised by said agent gathering a list of World Wide Web addresses which may contain information meeting said search specification and, in parallel, accessing data from said list of World Wide

## Web addresses.

29. A method, as claimed in claim 28, characterised by storing information, derived from searches in said information broker's file server, and where an information user has requested, by means of an agent, that information be routed to him which meets his search specification assigning said derived information a dynamic weighting depending on the time that said derived information has been held on said file server, said weighting being such that the probability of older derived information being routed to said information user is less than the probability of newer derived information being routed to said information user..

30. A method, as claimed in any of claims 21 to 29, characterised by said information broker's file server formulating a report on a search conducted in accordance to an information user's search specification, said report including sections on information derived from different World Wide Web sites including addresses of World Wide Web sites to which each section relates.

31. A method, as claimed in claim 30, characterised by said information broker's file server transmitting a notification message over a communications means notifying an information user when a report on a search carried out to his/her specification has been completed.

32. A method, as claimed in claim 30, characterised by said information broker's file server transmitting a notification message over a GSM short message service notifying an information user when a report on a search carried out to his/her specification has been completed.

33. A method, as claimed in claim 30, characterised by said information broker's file server transmitting a notification message over e-mail notifying an information user when a report on a search carried out to his/her specification has been completed.

34. A method, as claimed in claim 30, characterised by said information broker's file server transmitting a notification message over Minicall notifying an

- 25 -

information user when a report on a search carried out to his/her specification has been completed.

35. A method, as claimed in any of claims 31 to 34, characterised by transmitting said report to an information user, who commissioned said report, via pointcast.

36. A method, as claimed in any of claims 31 to 34, characterised by transmitting said report to an information user, who commissioned said report, via e-mail.

37. In a system as claimed in any of claims 1 to 19, a method of distributing information over the Internet, characterised by:

- an information broker's file server receiving information from a plurality of information providers intended for routing to information users;
- comparing information received from an information provider with profiles of information users derived from a customer database;
- routing information derived from information providers only to those information users whose profiles match said information.

38. A method, as claimed in claim 38, characterised by passing information selected for transmission to an information user to an information filter, controlled by an agent originating from said information user, prior to routing said selected information to said information user, said information filter being adapted to remove any information of a type which an information user has indicated is of no interest.

39. A method, as claimed in claim 38, characterised by said information users being consumers, or potential purchasers, by said information providers being vendors of products and/or services, and by said information supplied by said

- 26 -

information providers being advertising and/or promotional material.

40. A method, as claimed in either claim 38, or claim 39, characterised by said customer database containing information on information users derived from transactions relating to individual information users.

5 41. A method, as claimed in claim 39, or claim 40, characterised in that said advertising and/or promotional material may include multi-media presentations of a product, or service, and/or guides to a vendor's World Wide Web site.

10 42. An information user's terminal characterised in that said information user's terminal is adapted to operate with a system as claimed in any of claims 1 to 20, or use a method as claimed in any one of claims 21 to 41.

43. An information broker's file server characterised in that said information broker's file server is adapted to operate with a system as claimed in any of claims 1 to 20, or use a method as claimed in any one of claims 21 to 41.

1 / 5

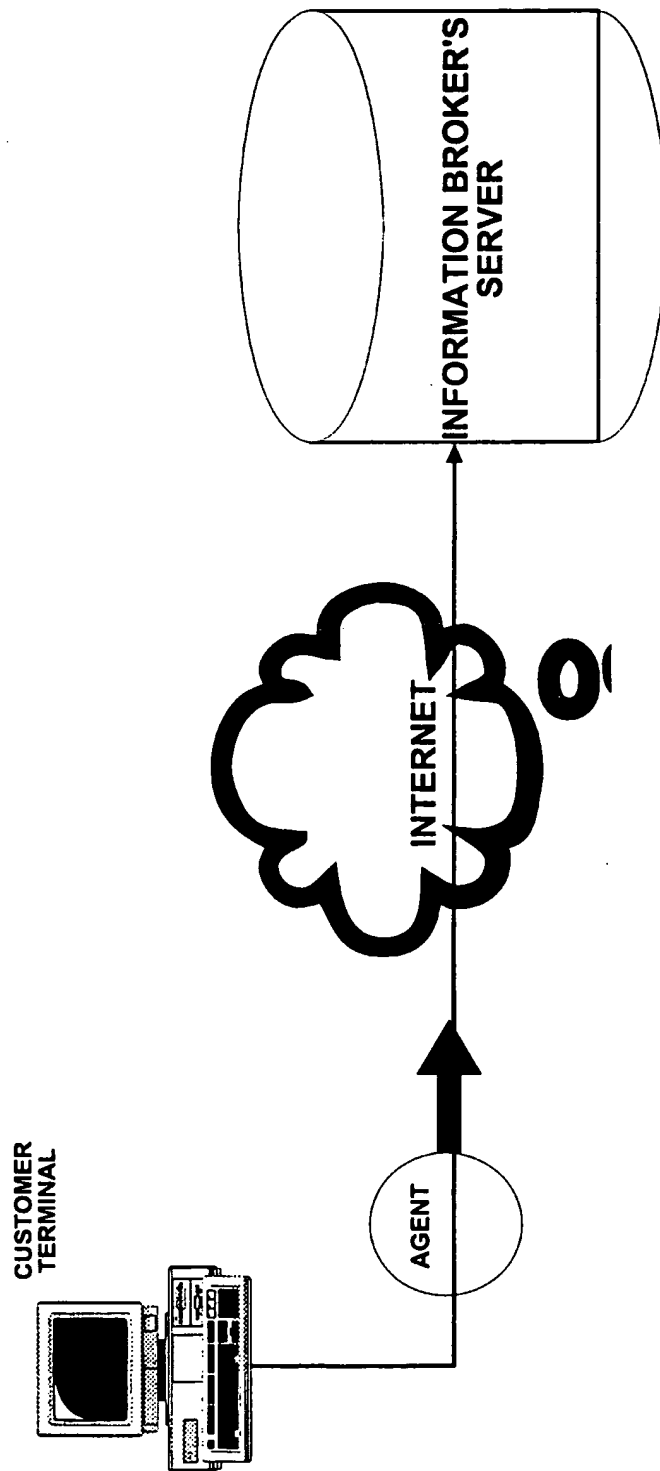
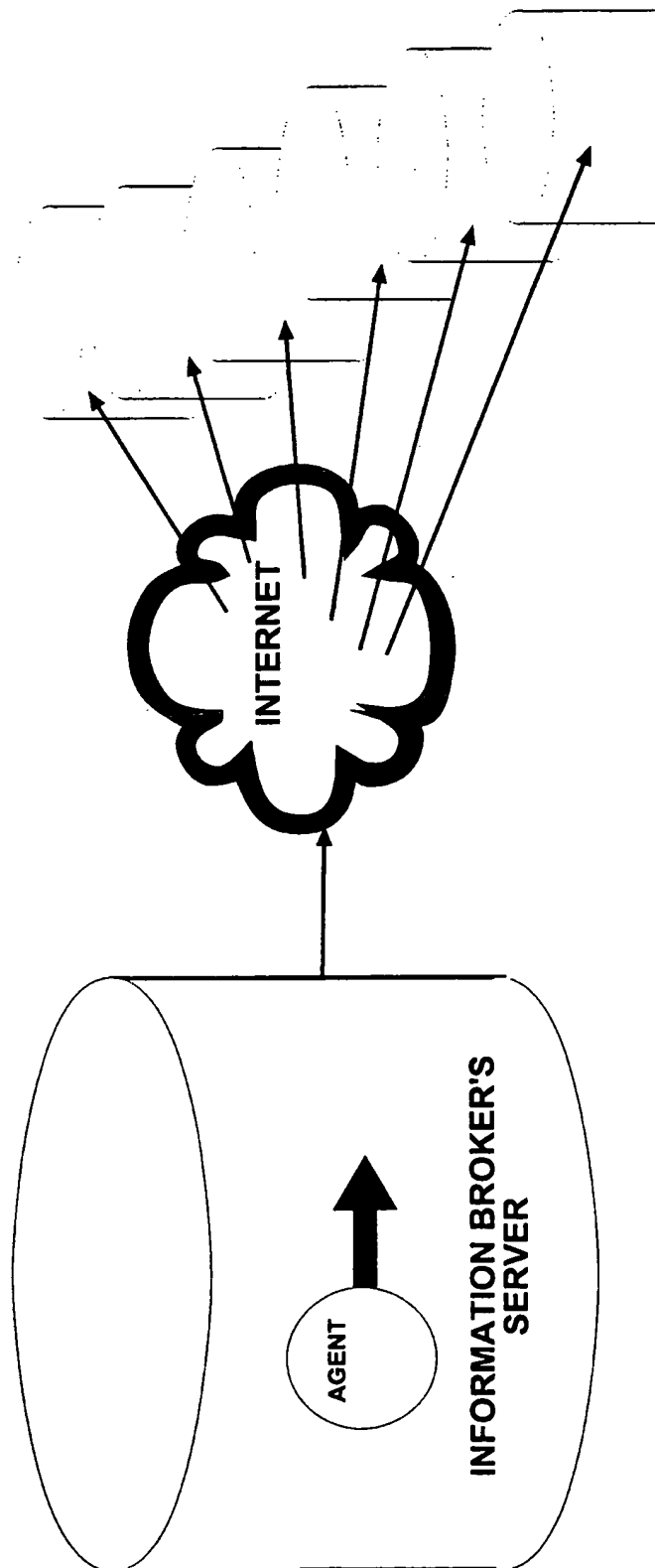


FIGURE 1

2 / 5



SEARCH ENGINES  
AND INFORMATION  
PROVIDERS' SERVERS

FIGURE 2

3 / 5

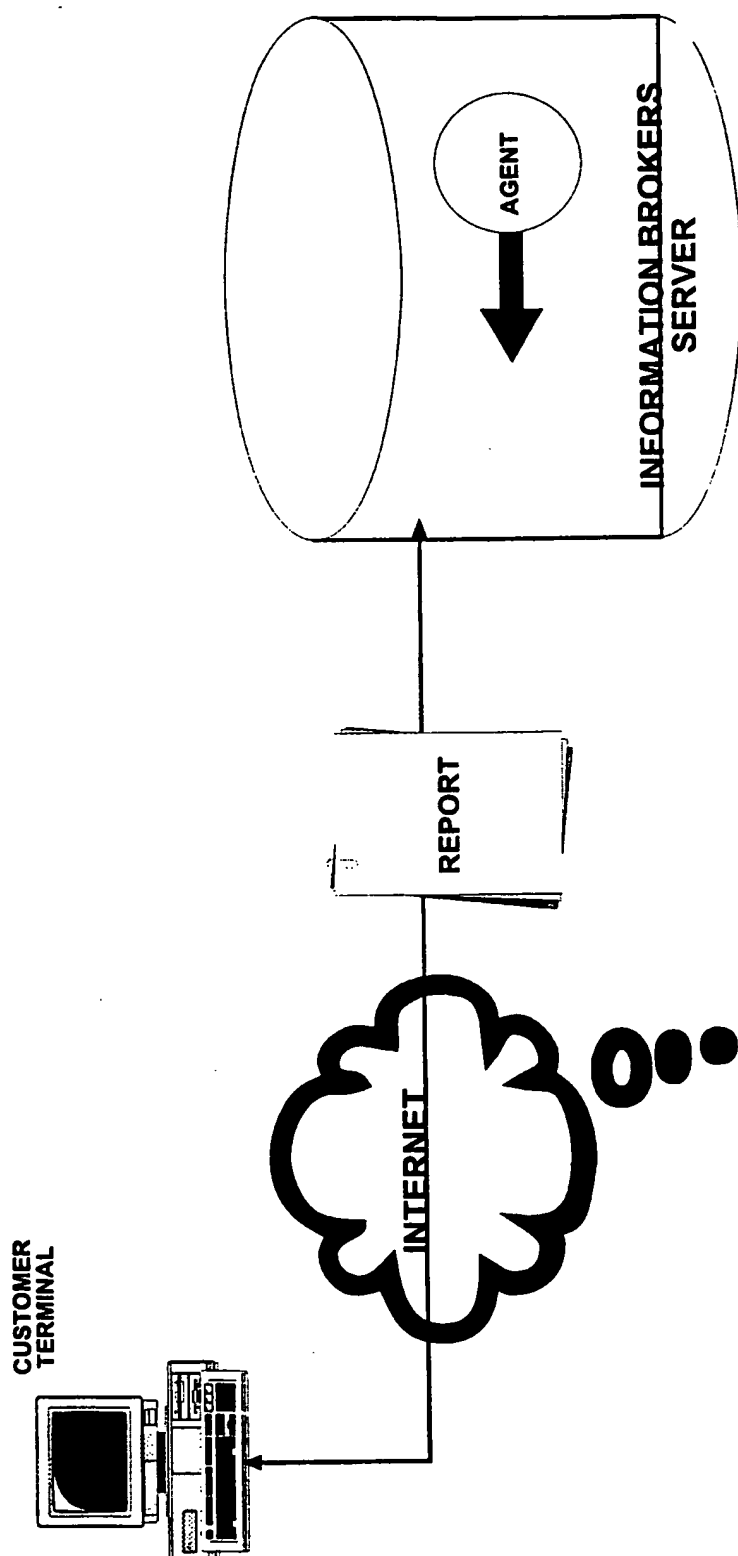


FIGURE 3

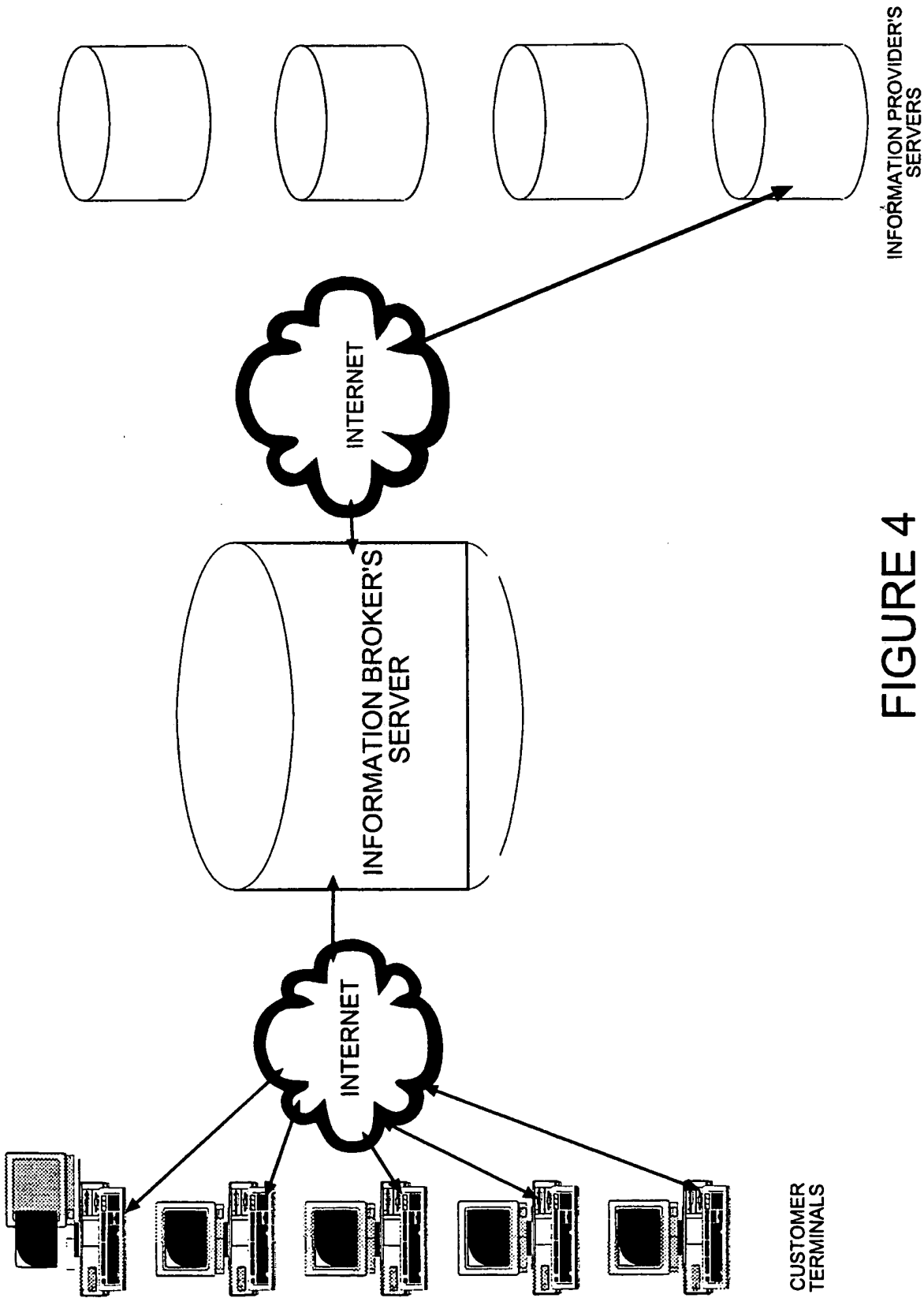


FIGURE 4



5 / 5

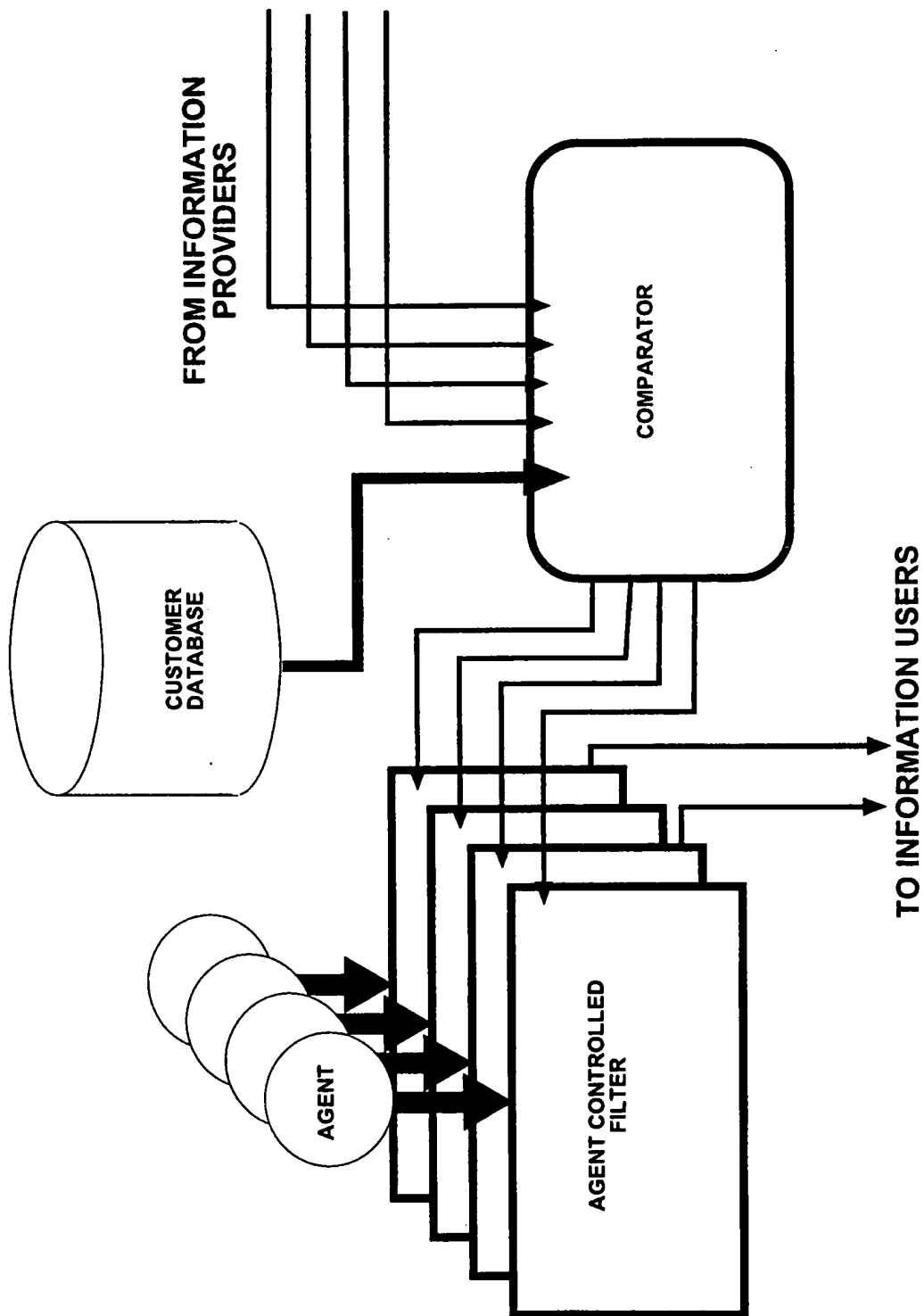


FIGURE 5